

Edison

(Fortunes Made in Business, 1901)

A COTTON PRINCE.

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old man of eighty-four came forward and offered to take £50,000 worth of shares, to which afterwards, when the project appeared again in danger, he added another £10,000; and when a guarantee of £360,000 was further required, his name was first upon the list of guarantors. This practical expression of his confidence in the scheme, there can be no doubt, very materially affected its fortunes. "This action on the part of the greatest merchant prince of Manchester," says a Manchester newspaper, "had a marked effect, not only in renewing and stimulating the confidence of the public in the undertaking, but, it is believed, in the action of the Parliamentary Committee itself, and anything better timed it is not easy to imagine."

THE CHRISTIAN MERCHANT.

John Rylands was always a deeply religious man, and his life was largely coloured by his faith. His parents were Congregationalists, and he held the same views, but had also adopted the tenets of the Baptists. So far back as 1846 he anticipated—in connection with the schools he organised, at a personal cost of some £2,000, for the benefit of the children and adults employed at his Gorton Mills—the modern Board School, and it is surprising to notice the breadth of the regulations he laid down there with regard to religious instruction. In his business dealings John Rylands set an exceptionally high standard, and his name was a synonym for uprightness and strict integrity. He died during the last month of 1888 at the age of eighty-seven years.

A LIBRARY AS A MONUMENT.

Few men in the years to come will be remembered by so magnificent and useful a monument as will John Rylands. When Mrs. Rylands thought how best she could commemorate the name and the worth of her husband, she resolved to dedicate to his memory an institution devoted to the encouragement of scholarship. The great John Rylands Library in Deansgate, Manchester, is the result.

A quarry in the Lake District was almost exhausted in finding stone for this building. The interior is of particular beauty. The contents are even more remarkable than the building. It contains the celebrated collection of illuminated and other MSS. belonging to the Earl of Crawford, the distinctive treasures of which are the early date of the principal MSS. and the number of marvellous bindings in metal and ivory dating from the 12th and 13th centuries.

The Library contains also the most famous of all private collections, "The Althorp Library," sold by Earl Spencer, and acquired by Mrs. Rylands for a great sum.

Mrs. Rylands has herself collected standard works in theology, philosophy, history, biography, and the sciences generally.

The library consists now of one of the finest collections of bibliographical treasures in the world—so far as the early history of printing is concerned. Nor is it less remarkable for its collection of Bibles in every language—the finest collection next to the British Museum in existence. Altogether it is a unique memorial of a wife to her husband.



R. Banks, Photo,

Manchester.

MR. JOHN RYLANDS' MONUMENT.
It is in the Southern Cemetery, Manchester.

EDISON—"THE WIZARD."

The Story of the World's Greatest Inventor.

Mr. Edison began life as a newsboy. An accident led to his introduction to telegraphy. His patents have brought him a huge fortune, and he is to-day the greatest of mechanical geniuses. He is now engaged on investigations which may revolutionise the iron trade.

Thomas Alva Edison may well be called "the wizard," for he has swept almost the whole gamut of inventive effort, from cockroach-killers to iron-smelting, and from toy-railways to kinetoscopes, and his fellow citizens are always expecting some new inventive surprise to be sprung upon them by him.

Mr. Edison was born in 1847, in a humble home in Ohio. He shewed no special gift of invention or anything else during his boyhood. He was smart and active and vigorous, and not over fond of school, getting along anyhow up to the age of fourteen, when he first became connected with the Press in the capacity of newsboy on a railway train. To this period of his early life he always refers with enthusiasm, and when a New York reporter is hard up for "copy" he will run over to Edison's New Jersey home and get him to talk a column or so on his newsboy days, which the inventor seldom declines to do. It is not always easy, perhaps, to deduce the precise line of demarcation between solid fact and Edisonian invention in these narratives, but they are greedily devoured, and form good, light reading.

HE TELLS TALES FOR THE NEWSPAPERS.

Edison, indeed, has been more interviewed and written about in the newspapers than any man of his time, probably. He seems to enjoy it, and possessing a ready wit, and perhaps knowing the value of advertisement, is generally good game for the enterprising journalist.

For a man so absorbed as he is in the work of invention, who is always engaged upon a number of serious investigations, and who has to direct and control the working of what may be styled an invention factory, in which a large staff of men of inventive ability are kept incessantly employed in carrying on experiments and perfecting schemes of invention, it is remarkable that he should be able at any moment to lift himself out of his scientific surroundings and enter glibly into the very lightest of light conversation, with all the *abandon* of irresponsible youth.

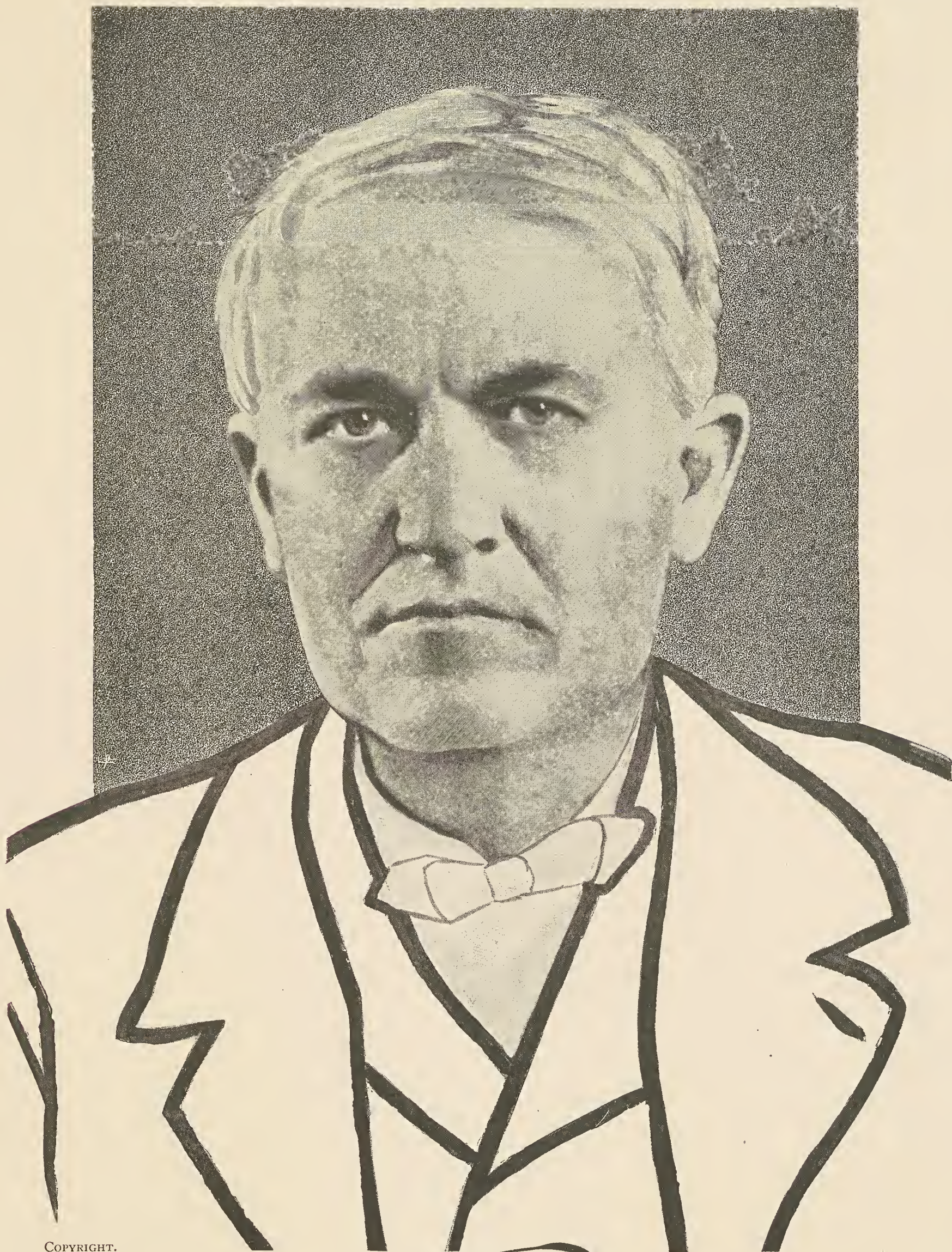
As a rule, he is a very accessible man, and knows what kind of stuff the American people like to read. They want amusing, and he amuses them; they want new "fairy tales of science," and he supplies them; they want to be told laughable tales of his boyhood life, before he had discovered his *metier* and began to mount the ladder, and he is pleased to relate them; they want to have their organs of wonder excited by hints of



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EDISON IN HIS WORKSHOP.

This photograph was taken in May, 1901.



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Thomas A. Edison
The World's Greatest Inventor.

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wondrous inventions that he is engaged in hatching for the revolutionising of the world, and he is as inventive in this order of work as in the labour of his laboratory.

SAYS HE IS 998.

Not long ago a New York reporter waited upon Mr. Edison at his "factory" at Menlo Park, New Jersey, and congratulated the "wizard," as he is called, on his vigorous health. "Yes," said Edison, "I am well enough, thank you, considering my age. This is my 998th birthday. You didn't know I was so old as that, did you? Man, that's nothing—just nothing. I expect to be at least 1,500 before the 4th of July. It's the newspapers, bless 'em," continued the electrician gaily. "It's all right; I haven't gone crazy or anything. I just made the remark because a clipping bureau has sent me an entirely new Edison story, and it raises the date. You see, we've been amusing ourselves at home, among ourselves, by collecting these yarns and calculating how old I should have to be to live through all the adventures they have me down for. When we quit last night I was only 970, but the bureau boost me twenty-eight years this morning."

EDISON AS TRAIN NEWSBOY.

When, however, Mr. Edison can be induced to indulge in autobiographical reminiscences he is entertaining and happy; nothing seems to please him better than to recall the days when he was a train-boy, selling newspapers, candy, books, fruit, and what not, to passengers on the Grand Trunk Railway. His run used to be from Port Huron to various points on the line. In those days Edison had not the remotest notion of ever becoming an inventor. In fact, he had never been brought into contact with inventive effort of any kind. He was a bright boy, full of "go" and fun, and sharp as a needle. The great problems of science were as yet absent from his thoughts. Not long ago, referring to his youthful train experience, he told the following story:—

"In selling pea-nuts on the train there was a good deal of art necessary. The pea-nut trick was about the first thing they taught us before we were considered fit to go on the road. In those days the boys sold from a basket holding the pea-nuts in bulk. We were given a little tin measure to sell from, which was smaller at the top than lower down. If you worked it right when you shoved the measure through the nuts in the basket they would jam about half-way down the measure. The purchaser would spread his pocket, and you shot in the half measure of nuts with as much care as if he were getting full measure. No kicks went when once the nuts were in the customer's pocket. Well, well, it's a long time ago, but I shall never forget the time when the pea-nut bridge broke down before I had a chance to dump the nuts into the customer's pocket. I lost the trade, but on the next trip I got even, for I sold every blessed thing I had on the train—pea-nuts, candy, newspapers, yes, and even my basket and the company's store box. But I didn't always get it my own way, for all that.

"In those days they used to run trains made up of three coaches—a baggage car, a smoker, and what was known as the ladies' car. The ladies' car was always run as the rear-end coach. The day after I had the turn-up with the man who saw how the pea-nut trick was done, I seemed to be in hard luck. I had worked the smoking-car pretty thoroughly, till there didn't seem to be more than fifty cents on it. The ladies' car was not looked upon as a gold mine at the best of times, and I kept out of there for some time. When I had carried the basket in I had noticed two young fellows sitting together near the rear end of the car. They were dressed to kill, and were altogether the sort of people that a youngster like me felt he had to have some fun with. Behind them sat a coloured man. He had a brass bandbox beside him on the seat, and seemed to be the servant of the two young men.

EDISON'S "THROAT TROUBLE."

"As I made my way down the car I could hear these young fellows complaining of the dulness of things on the railroad. I gathered from their talk that they were Southerners who had come up from the South on a spree, designing to astonish the North. When I reached the Southerners I ran through the usual list of articles—pea-nuts, apples, figs, maple-sugar, and the rest—and asked them if they wanted any. They said they didn't. Then I asked them if they wanted any books, papers, or magazines. 'No,' said the Southerner nearest to me, 'we don't want any; moreover, young man, we have decided that we will protect the other people on this

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train against the perils of dyspepsia, whether of the body or the mind.' With that he grabbed the basket out of my hands, and before I could move, emptied its whole contents out of the window. Then he handed me back the basket with a polite bow. I was so astonished that I could do nothing but yell. I just stood there and yelled at him—didn't say anything—just yelled. The other people in the train came bustling up. 'This youth seems to have some trouble with his throat,' said one of the young men to the other, without even a smile, and a few minutes later we were at our destination, and, after chucking me a dollar, they alighted."

EDISON AS EDITOR—DIPPED IN THE RIVER.

It was during the Civil War that young Edison made his start in selling newspapers, sweets, and so on. One of his main deals was when the news had been received of the battle of Pitts Landing, when he induced the editors of the *Detroit Free Press* to let him have a thousand copies of the paper for sale on the train. From news-vending he in time got to news-supplying, and possessing himself of an old press and some still older type, he managed to print a sort of an apology for a newspaper on one of the Grand Trunk cars, calling his sheet the *Grand Trunk Herald*. It was an ambitious effort, and taxed both his ingenuity and his pocket a good deal; but the passengers fell in with his whim, and paid their money for the unique sheet with the greatest readiness. Thus encouraged, after a time he ventured to bring out a comic journal, which he called *Paul Pry*, publishing it in the same way as his other paper, and from the same publishing-house. Into the new sheet he introduced many personalities, sometimes smart, and sometimes insulting, everything going smoothly until one day a subscriber took offence at something that had been said about him, and gave the editor an admonishing dip in the river. After that, one misfortune followed fast upon the heels of another, until the climax was reached by his upsetting a phosphorus bottle, which nearly set the train on fire, and led to the confiscation and destruction of the whole of his printing materials, leaving him for the moment despondent and humiliated.



Rockwood, Photo.

A SNAPSHOT OF EDISON.

TELEGRAPHY AND A FORTUNATE ACCIDENT.

Not long after this incident an event happened which proved to be the turning-point of his life. He had the good fortune to rescue a railway servant's child from being run over by a locomotive, and the father, anxious to express his gratitude in some practical way, offered to teach Edison the art of telegraphy, in which the future inventor had already begun to take a lively interest. He proved to be an eager scholar, and soon mastered all there was to master in the matter of sending and receiving telegrams, and a little later on he obtained a position as

telegraph operator on the railway. But he was not so assiduous in his duty as might have been expected in one who was so desperately in earnest, for he had not been long at his new employment before some act of omission or commission nearly caused a collision on the line. The result was a "carpeting" before the general manager.

"CARPETED" BEFORE THE MANAGER.

Referring to this incident, Mr. Edison delights, with mock seriousness, to recall the tones and gestures of that important individual as he uttered the following words of warning: "Young man, this offence of yours is a very serious one, and I think I shall be obliged to make an example of you, and have you sent to the penitentiary for five years, and then——" "Just at that moment," explains Mr. Edison, "two English swells came in, and Mr. Spicer, the manager, now all affability, rose to greet them, and they engaged him in conversation. As I could not see that they really needed me, I slipped quietly out of the door and made for the freight depôts, where I found a train about to start for Sarnia. I knew the conductor, and told him I had been in Toronto on a little holiday excursion, and said I would like to take a run up the line with him. He told me to jump aboard, and I was not long in getting out of sight, but my pulse did not get down to normal work until the ferry-boat between Sarnia and Port Huron had landed me in the latter town."

ANOTHER ACCIDENT AND £60 A MONTH.

From that time forward for a few years Edison led a somewhat unsettled career, being most things in turn and nothing long. Most of the time, however, he was connected in some way or other with telegraphy, and at length he made his way to Boston, tramping the whole distance from his house in Port Huron to Boston in four days and four nights. Here he was fortunate enough to obtain employment in the manager's office, and in the course of a few months made many friends, and began to shew signs of the inventive genius that was within him. He applied himself resolutely to the study of science, especially electricity, remaining in Boston until he was twenty-one, when he proceeded to New York, arriving at the Empire City in an almost penniless condition.

Strolling along Wall Street one day he noticed a crowd assembled near the Exchange, and pressing forward he learned that there was something amiss with the telegraphic communication. Here was an opportunity for him to shew his knowledge, so he walked into the office around which the people were collected—which was the Gold and Stock Telegraph Company—and inquired what was wrong, offering at the same time to put the apparatus in order. He was allowed to try what he could do, and, to the astonishment of the manager, he had the thing in perfect working condition in a few minutes, and, as a result, was engaged there and then as electrician at a salary of £60 a month.

FIRST ELECTRICAL INVENTIONS.

He now found himself suddenly advanced to a position of comparative competence, the salary that he was drawing being far in advance of anything he had previously earned, while his work was not so arduous but that he could spare time to continue his investigations, and it was while in this employment that he brought out his first invention, which was the stock printer. This was followed up by sundry other inventions in applied electricity, and before long the company he was with made him an offer of £8,000 for his patents.

Mr. Edison, speaking of this period of his career, said: "I could have been knocked down with a feather, so astonished was I at the sum, and I concluded there must be some Wall Street trick about the thing, and thought if ever I got a cent I should be lucky. After signing the agreement I received the cheque and proceeded to the bank with it. I had never been in a bank before, so I hung around in order to see the methods of procedure, then took my place with a row of people at the paying teller's window. When my turn came I presented the cheque, and the paying teller yelled out a lot of jargon, which I failed to understand on account of my deafness. Again he roared at me, but I could not catch it, so I left my place and passed on. Sitting dismally on the steps of the bank, I concluded I was fated never to see the money, and so hopeless did I become that anyone might have bought the cheque of me

for £10. However, I went back and told one of the clerks in the company's office, when he explained that the teller evidently wanted me to be identified. He then went to the bank with me, performed the ceremony, and the money was at once paid, greatly to my astonishment. In thirty days I had fully equipped a shop of my own—an investment which left me very little money."

HIS FIRST ELECTRIC LAMP.

From this point Mr. Edison's course was one of almost unbroken success, won by hard work and intense application. His first factory was at Newark, where he



THE EDISON SNOOT, INVENTED BY HIM TO PROTECT FROM DUST THE LUNGS OF THOSE WORKING AT LOW-GRADE ORE FOR THE PRODUCTION OF FINE STEEL.

employed some 300 men. A few years later he established a still larger concern at Menlo Park, about 24 miles from New York, where he spent over £20,000 on new experimenting apparatus alone, building also a large factory, as well as a private mansion, and it is at Menlo Park that he still has his headquarters. In his earlier years at Newark and Menlo Park he devoted much time and study to the perfecting of electrical apparatus, and especially to the introduction of lamps for electric lighting. His achievements in this direction are too well known to need particularisation at this stage, but the story of the discovery of his first electric lamp, which was the most practical realisation in the way of electric lighting up to that time, should not be passed by. After a very long and anxious period of study, Edison, in October, 1879, came to the conclusion that a carbon filament was utilisable, and so convinced was he of this that for four days

and nights he refused to leave his laboratory, continuing experiment after experiment with his associate, Mr. Charles Batchelor. On the second night he seemed to be so near the consummation of his task that he said to Mr. Batchelor "We will make a lamp before we sleep, or die in the attempt," and on the second day after making this vow a perfect filament was secured, and when at last a lamp was finished and lighted they saw that they had accomplished a magnificent success. This was the Edison incandescent lamp, which was afterwards put on the market and wrought such a revolution in lighting.

For some years after this invention was evolved, Mr. Edison devoted himself with rare diligence to the improvement and popularising of the lamp, and many companies were formed for electric lighting purposes. The invention brought much fame to Mr. Edison, and a considerable accession of fortune, but he had his detractors, who sought to prove that his discovery was no discovery at all, the principle of the electric light having been demonstrated long before; but in spite of all adverse criticism, it is generally held that his claim to being the first to perfect a system of practical electric lighting has been adequately sustained.

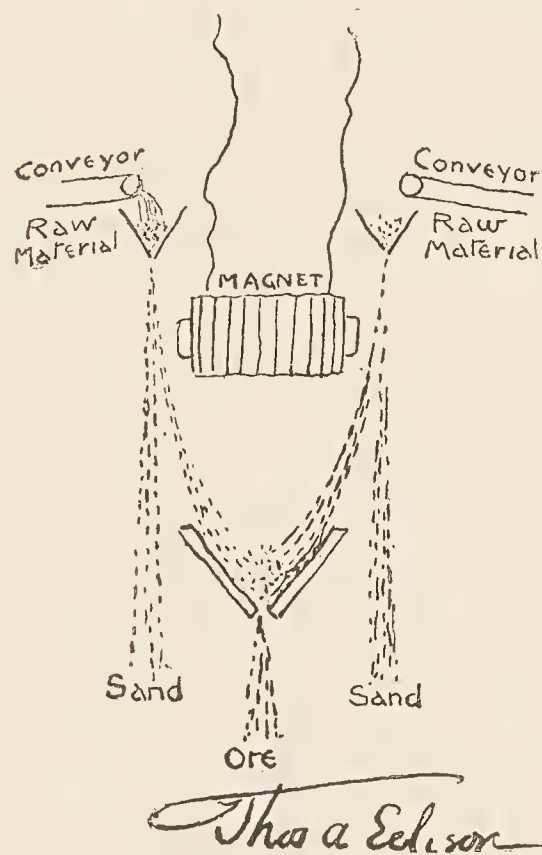


DIAGRAM DRAWN BY EDISON TO ILLUSTRATE THE PRINCIPLE BY WHICH HE CONVERTS LOW-GRADE ORE INTO MATERIAL FIT FOR THE PRODUCTION OF FINE STEEL.

THE PHONOGRAPH.

One of the greatest surprises of Mr. Edison's extraordinary career was the invention of the phonograph, which may be classed with the many remarkable inventions which have been more or less brought about by accident. "I was singing to the mouthpiece of a telephone," says Mr. Edison, "when the vibration of the voice sent the fine steel point

into my finger. That set me thinking. If I could record the actions of the point and send the point over the same surface afterwards, I saw no reason why the thing would not talk. I tried the experiment first on a slip of telegraph paper, and found that the point made an alphabet. I shouted the words 'Halloo, Halloo!' into the mouthpiece, ran the paper back over the steel point, and heard a faint 'Halloo, Halloo!' in return. I there and then determined to make a machine which would work accurately, and gave my assistants instructions, informing them of my discovery. They laughed at me. But I made them set to. That's the whole story. The phonograph, or sound-recorder, is the result of the pricking of a needle."

Much remained to be done, however, before the phonograph became the instrument that it is to-day, and its final stage has probably not been reached even yet. It was a long time before the labial and dental sounds could be clearly distinguished, and the sibilants were more refractory still. It is said that Edison, in order to overcome the latter difficulty, spent from fifteen to twenty hours daily for six or seven months at a stretch dinning the word "Spezia" into the obstinate cylinder; but in the end the instrument was brought into subjection, and the difficult word was given back to him, not in a confused lisp, but with perfect enunciation. The phonograph was first exhibited in England at the Royal Institution and then at the Crystal Palace in 1888, and at the Paris Exposition of 1889 was one of the leading sensations.

LATER INVENTIONS.

Edison has given the world many surprises since then. His work in connection with the development of electricity never stops; it is always going forward, and although many other inventors, both in America and England, have produced, and are producing, improvements of the first importance in this direction, the field is so vast that Edison is still able to keep a position that is all his own in the record of electrical science.

Mr. Edison has in recent years been the means of greatly enlarging the scope of photography, by enlisting the aid of electricity in its development; and in the various forms of "moving pictures" which have lately been exhibited under different names, his master touch is largely to be traced. His patents for inventions connected with this class of photography are numerous. And he also aims at combining the photographic apparatus with the phonograph in an instrument called the kinetophonograph, which, if perfected, will give back sounds as well as scenes and figures. He maintains that one day it will be quite possible to reproduce not only the sound of the voices of great singers, actors and orators, but their every look and gesture, thus enabling a famous musical or dramatic performance to become a permanent realisation, capable of reproduction at any time or in any place.

Versatile and splendid as have been Mr. Edison's achievements, there remains the possibility of a crowning one. The great series of costly experiments which he has been carrying on for the conversion of low-grade ore into material fit for the production of fine steel are being watched with keen interest by experts on both sides of the Atlantic. If "the wizard" succeeds, no man can tell the value of such a process. It will be the greatest hit in the metal world since the time when Henry Bessemer worked out those startling experiments in the back garden of his little London house, which revolutionised the manufacture of steel, and brought fame and fortune to the lucky inventor.

PERSONAL TRAITS.

Mr. Edison, as will have been gathered, is a man of strong personality—a thorough American, witty, good-hearted, and, above all, hard working. He devotes himself to his laboratory and factory twelve hours a day—from seven to seven. He lives plainly, abstaining almost entirely from alcoholic drinks, smokes a great deal, and the moment his head is on the pillow he goes to sleep, and sleeps so soundly that, to use his own words, it would take a twelve-inch cannon to wake him up at any other time than that at which he has decided to wake.